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(54) **COMPOSITIONS AND METHODS FOR TREATMENT OF CHEMICAL WARFARE AGENTS**

(71) Applicants: **Battelle Memorial Institute**, Columbus, OH (US); **The Ohio State University**, Columbus, OH (US)

(72) Inventors: **Kevin G. McGarry, JR.**, Delaware, OH (US); **Robert A. Moyer**, Plain City, OH (US); **David W. Wood**, Dublin, OH (US)

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(57) **ABSTRACT**

Disclosed herein are proteins having at least 90% sequence identity to a wild-type human butyrylcholinesterase and compositions comprising same. The disclosed proteins may have at least one mutation at a position within the acyl binding pocket and at least one mutation adjacent to the acyl biding pocket. Further disclosed are proteins having at least 90% sequence identity to a wild-type human butyrylcholinesterase, wherein the protein may comprise a mutation at a position selected from one or more of 282, 283, and 284.

Specification includes a Sequence Listing.